

Amendments to the Claims:

The listing of claims below will replace all prior versions and listings of claims in the application. The changes to the currently amended claim are shown using underlining to identify added material.

Listing of Claims:

1-19. (canceled)

20. (Previously Amended) A method of identifying N-terminal proBNP in a sample comprising:

detecting a complex of the N-terminal proBNP, a first antibody, and a second antibody; wherein

a lower detection limit for the N-terminal proBNP is less than 1 fmol/ml of the sample;

the first antibody is specific to a first epitope of the N-terminal proBNP;

the second antibody is specific to a second epitope of the N-terminal proBNP; and

the first epitope and the second epitope are different.

21. (Previously Added) The method of claim 20, wherein at least one of the first and the second antibodies comprises a label, and wherein the method further comprises detecting a signal emitted from the label.

22. (Previously Added) The method of claim 20 wherein the first and the second antibodies bind simultaneously to the N-terminal proBNP.

23. (Previously Added) The method of claim 20 wherein the detecting is performed by a heterogeneous test procedure.

24. (Previously Added) The method of claim 21 wherein the detecting is performed by a heterogeneous test procedure.

25. (Previously Added) The method of claim 22 wherein the detecting is performed by a heterogeneous test procedure.

26. (Previously Added) The method of claim 23 wherein the test procedure involves a sandwich assay.

27. (Previously Added) The method of claim 24 wherein the test procedure involves a sandwich assay.

28. (Previously Added) The method of claim 25 wherein the test procedure involves a sandwich assay.

29-37. (Cancelled)

38. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 20; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

39. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 21; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

40. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 22; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

41. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 23; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

42. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 24; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

43. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 25; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

44. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 26; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

45. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 27; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

46. (Previously Amended) A method of differentiating a sample taken from a healthy patient and a sample taken from a patient with a type of heart failure, comprising:

identifying an amount of N-terminal proBNP in a sample under study with the method of claim 28; and

correlating the amount of N-terminal proBNP identified in the sample under study with a level of N-terminal proBNP characteristic of a healthy patient or a patient with a type of heart failure;

wherein the type of heart failure is selected from the group consisting of NYHA Class I, NYHA Class II, NYHA Class III, and NYHA Class IV.

47-55. (Cancelled)

56. (Previously Added) The method of claim 38 wherein the type of heart failure is NYHA Class I.

57. (Previously Added) The method of claim 39 wherein the type of heart failure is NYHA Class I.

58. (Previously Added) The method of claim 40 wherein the type of heart failure is NYHA Class I.

59. (Previously Added) The method of claim 41 wherein the type of heart failure is NYHA Class I.

60. (Previously Added) The method of claim 42 wherein the type of heart failure is NYHA Class I.

61. (Previously Added) The method of claim 43 wherein the type of heart failure is NYHA Class I.

62. (Previously Added) The method of claim 44 wherein the type of heart failure is NYHA Class I.

63. (Previously Added) The method of claim 45 wherein the type of heart failure is NYHA Class I.

64. (Previously Added) The method of claim 46 wherein the type of heart failure is NYHA Class I.

65-74. (Cancelled)

75. (Previously Added) The method of claim 20 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

76. (Previously Added) The method of claim 21 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

77. (Previously Added) The method of claim 22 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

78. (Previously Added) The method of claim 23 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

79. (Previously Added) The method of claim 24 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

80. (Previously Added) The method of claim 25 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

81. (Previously Added) The method of claim 26 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

82. (Previously Added) The method of claim 27 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

83. (Previously Added) The method of claim 28 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

84-92. (cancelled)

93. (Previously Added) The method of claim 38 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

94. (Previously Added) The method of claim 39 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

95. (Previously Added) The method of claim 40 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

96. (Previously Added) The method of claim 41 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

97. (Previously Added) The method of claim 42 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

98. (Previously Added) The method of claim 43 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

99. (Previously Added) The method of claim 44 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

100. (Previously Added) The method of claim 45 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

101. (Previously Added) The method of claim 46 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

102-110. (Cancelled)

111. (Previously Added) The method of claim 56 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

112. (Previously Added) The method of claim 57 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

113. (Previously Added) The method of claim 58 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

114. (Previously Added) The method of claim 59 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

115. (Previously Added) The method of claim 60 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

116. (Previously Added) The method of claim 61 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

117. (Previously Added) The method of claim 62 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

118. (Previously Added) The method of claim 63 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

119. (Previously Added) The method of claim 64 further comprising quantifying the N-terminal proBNP identified in the sample against a standard comprised of recombinant N-terminal proBNP.

120-128. (Cancelled)

129. (Previously Amended) A method of producing antibodies against N-terminal proBNP comprising:

immunizing an organism with recombinant N-terminal proBNP, such that the organism produces antibodies; and
isolating the antibodies from the organism.

130. (Previously Added) An antibody against recombinant N-terminal proBNP.

131. (Previously Added) The antibody of claim 130 wherein the antibody specifically binds N-terminal proBNP in a range between amino acids 10 to 66.

132. (Previously Added) An antibody against recombinant N-terminal proBNP produced by immunizing an organism with recombinant N-terminal proBNP.

133. (Previously Added) The antibody of claim 132 wherein the antibody specifically binds N-terminal proBNP in a range between amino acids 10 to 66.

134. (Previously Added) The antibody of claim 130 produced by a cell line selected from the group consisting of M 10.1.11, M 13.4.14, and a combination thereof.

135. (Previously Added) The antibody of claim 131 produced by a cell line selected from the group consisting of M 10.1.11, M 13.4.14, and a combination thereof.

136. (Previously Added) An antibody against recombinant N-terminal proBNP produced by immunizing an organism with recombinant N-terminal proBNP, wherein the antibody thus produced is equivalent to an antibody against recombinant N-terminal proBNP produced by a cell line selected from the group consisting of M 10.1.11, M 13.4.14, and a combination thereof.

137. (Previously Added) Cell line M 10.1.11.

138. (Previously Added) Cell line M 13.4.14.

139. (Previously Added) A method of producing polyclonal antibodies against recombinant N-terminal proBNP comprising:

- immunizing an organism with recombinant N-terminal proBNP;
- isolating the antibodies from the organism;
- screening the antibodies for reactive epitopes; and
- purifying the antibodies by immunosorption.

140. (Currently Amended) A method of producing monoclonal antibodies against recombinant N-terminal proBNP comprising:

- immunizing an organism with recombinant N-terminal proBNP;
- fusing cells obtained from the organism with myeloma cells to produce hybrid cells wherein the hybrid cells produce monoclonal antibodies; and
- selecting clones of the hybrid cells according to reactivity with native N-terminal proBNP in different pools of patient sera.

141. (Previously Added) A method of identifying N-terminal proBNP in a sample comprising:

- binding a first antibody to the N-terminal proBNP;
- binding a second antibody to the N-terminal proBNP; and
- detecting a complex of the N-terminal proBNP, a the first antibody, and a the second antibody; wherein
 - a lower detection limit for the N-terminal proBNP is less than 1 fmol/ml of the sample;
 - the first antibody is specific to a first epitope of the N-terminal proBNP;
 - the second antibody is specific to a second epitope of the N-terminal proBNP;
 - the first antibody and the second antibody bind simultaneously to the N-terminal proBNP; and

the first epitope and the second epitope are different.